

## Steel pipes - double - series 1

8.1



### Steel pipes - double - series 1

Steel pipe		Jacket pipe		Spacing	Weight	Water quantity	Standard	
DN	d outside mm	Wall thickness mm	D outside mm	Wall thickness mm	a mm	kg/m	l/m	lgd. m
20+20	26,9+26,9	2,6	125	3,0	19	5,0	0,37+0,37	6
25+25	33,7+33,7	3,2	140	3,0	19	7,0	0,59+0,59	6/12
32+32	42,4+42,4	3,2	160	3,0	19	8,9	1,02+1,02	12
40+40	48,3+48,3	3,2	160	3,0	19	9,7	1,38+1,38	12
50+50	60,3+60,3	3,2	200	3,2	20	12,8	2,28+2,28	12
65+65	76,1+76,1	3,2	225	3,4	20	16,0	3,82+3,82	12
80+80	88,9+88,9	3,2	250	3,6	25	18,9	5,35+5,35	12
100+100	114,3+114,3	3,6	315	4,1	25	27,2	9,01+9,01	12/16
125+125	139,7+139,7	3,6	400	4,8	30	37,0	13,79+13,79	12/16
150+150	168,3+168,3	4,0	450	5,2	40	47,9	20,18+20,18	12/16
200+200	219,1+219,1	4,5	560	6,0	45	70,4	34,67+34,67	12/16
250+250	273,0+273,0	5,0	710	7,2	45	101,9	54,33+54,33	12/16

All pipes are available with alarm wires.

Continuously produced pipe of 6 m not supplied as standard.

Series 1 pipes are normally supplied as traditionally produced pipes without an inserted diffusion barrier. However, dimensions with jacket pipes  $\leq \text{ø}355$  mm can be supplied as a special delivery.



### Steel pipes - double - series 2

Steel pipe			Jacket pipe		Spacing	Weight	Water quantity	Standard
DN	d outside mm	Wall thickness mm	d outside mm	Wall thickness mm	a mm	kg/m	l/m	lgd. m
20+20	26,9+26,9	2,6	140	3,0	19	5,4	0,37+0,37	6/12
25+25	33,7+33,7	3,2	160	3,0	19	7,6	0,59+0,59	6/12
32+32	42,4+42,4	3,2	180	3,0	19	9,4	1,02+1,02	12
40+40	48,3+48,3	3,2	180	3,0	19	10,3	1,38+1,38	12
50+50	60,3+60,3	3,2	225	3,4	20	13,8	2,28+2,28	12
65+65	76,1+76,1	3,2	250	3,6	20	17,1	3,82+3,82	12
80+80	88,9+88,9	3,2	280	3,9	25	20,4	5,35+5,35	12
100+100	114,3+114,3	3,6	355	4,5	25	30,2	9,01+9,01	12/16
125+125	139,7+139,7	3,6	450	5,2	30	40,8	13,79+13,79	12/16
150+150	168,3+168,3	4,0	500	5,6	40	52,1	20,18+20,18	12/16
200+200	219,1+219,1	4,5	630	6,6	45	75,6	34,67+34,67	12/16
250+250	273,0+273,0	5,0	800	7,9	45	112,6	54,33+54,33	12/16

All pipes are available with alarm wires.

Continuously produced pipe of 6 m not supplied as standard.

#### Diffusion barrier

Isoplus can produce pipes with jacket pipes in jacket pipe dimensions of  $\leq \text{ø}355$  mm as energy-saving, continuously produced pipes with a diffusion barrier inserted between the jacket pipe and the polyurethane foam.

For pipes with jacket pipes in dimension of  $>\text{ø}355$  mm, the jacket pipe functions as a diffusion barrier due to its thickness.

The diffusion barrier secures isoplus pre-insulated pipes against ageing, and the heat loss is therefore constant throughout the pipe's technical service life.

## Steel pipes - double - series 3

8.1.2



### Steel pipes - double - series 3

Steel pipe		Jacket pipe		Spacing	Weight	Water quantity	Standard	
DN	d outside mm	Wall thickness mm	D outside mm	Wall thickness mm	a mm	kg/m	l/m	lgd. m
20+20	26,9+26,9	2,6	160	3,0	19	5,9	0,37+0,37	6/12
25+25	33,7+33,7	3,2	180	3,0	19	8,2	0,59+0,59	6/12
32+32	42,4+42,4	3,2	200	3,2	19	10,2	1,02+1,02	12
40+40	48,3+48,3	3,2	200	3,2	19	11,1	1,38+1,38	12
50+50	60,3+60,3	3,2	250	3,6	20	14,9	2,28+2,28	12
65+65	76,1+76,1	3,2	280	3,9	20	18,6	3,82+3,82	12
80+80	88,9+88,9	3,2	315	4,1	25	22,3	5,35+5,35	12
100+100	114,3+114,3	3,6	400	4,8	25	33,3	9,01+9,01	12/16
125+125	139,7+139,7	3,6	500	5,6	30	45,0	13,79+13,79	12/16
150+150	168,3+168,3	4,0	560	6,0	40	57,7	20,18+20,18	12/16
200+200	219,1+219,1	4,5	710	7,2	45	87,2	34,67+34,67	12/16
250+250	273,0+273,0	5,0	900	8,7	45	128,9	54,33+54,33	12/16

All pipes are available with alarm wires.  
Continuously produced pipe of 6 m not supplied as standard.

#### Diffusion barrier

Isoplus can produce pipes with jacket pipes in jacket pipe dimensions of  $\leq \varnothing 355$  mm as energy-saving, continuously produced pipes with a diffusion barrier inserted between the jacket pipe and the polyurethane foam.

For pipes with jacket pipes in dimension of  $> \varnothing 355$  mm, the jacket pipe functions as a diffusion barrier due to its thickness.

The diffusion barrier secures isoplus pre-insulated pipes against ageing, and the heat loss is therefore constant throughout the pipe's technical service life.



## Curved pipes - double 12 m

Steel pipe		Series 1			Series 2			Series 3		
DN	d outside mm	Jacket pipe D outside mm	Design radius r [m]	Max. permissible angle $\alpha$ 12 m pipe length	Jacket pipe D outside mm	Design radius r [m]	Max. permissible angle $\alpha$ 12 m pipe length	Jacket pipe D outside mm	Design radius r [m]	Max. permissible angle $\alpha$ 12 m pipe length
50+50	60,3+60,3	200	16	43	225	16	43	250	16	43
65+65	76,1+76,1	225	18	39	250	18	39	280	18	39
80+80	88,9+88,9	250	19	37	280	19	37	315	19	37
100+100	114,3+114,3	315	23	30	355	23	30	400	23	30
125+125	139,7+139,7	400	23	30	450	23	30	500	25	27
150+150	168,3+168,3	450	25	27	500	25	27	560	36	19
200+200	219,1+219,1	560	30	23	630	43	16	710	43	16

## Curved pipes - double 16 m

Steel pipe		Series 1			Series 2			Series 3		
DN	d outside mm	Jacket pipe D outside mm	Design radius r [m]	Max. permissible angle $\alpha$ 16 m pipe length	Jacket pipe D outside mm	Design radius r [m]	Max. permissible angle $\alpha$ 16 m pipe length	Jacket pipe D outside mm	Design radius r [m]	Max. permissible angle $\alpha$ 16 m pipe length
100+100	114,3+114,3	315	21	43	355	21	43	400	21	43
125+125	139,7+139,7	400	21	43	450	21	43	500	24	39
150+150	168,3+168,3	450	24	39	500	24	39	560	34	27
200+200	219,1+219,1	560	27	34	630	38	24	710	38	24

Curved pipes  $\leq \text{Ø}168$  steel pipes bends with 1.5 m straight end lengths.

$\text{Ø}219/\text{Ø}560$  jacket bends with 2 m straight end lengths.

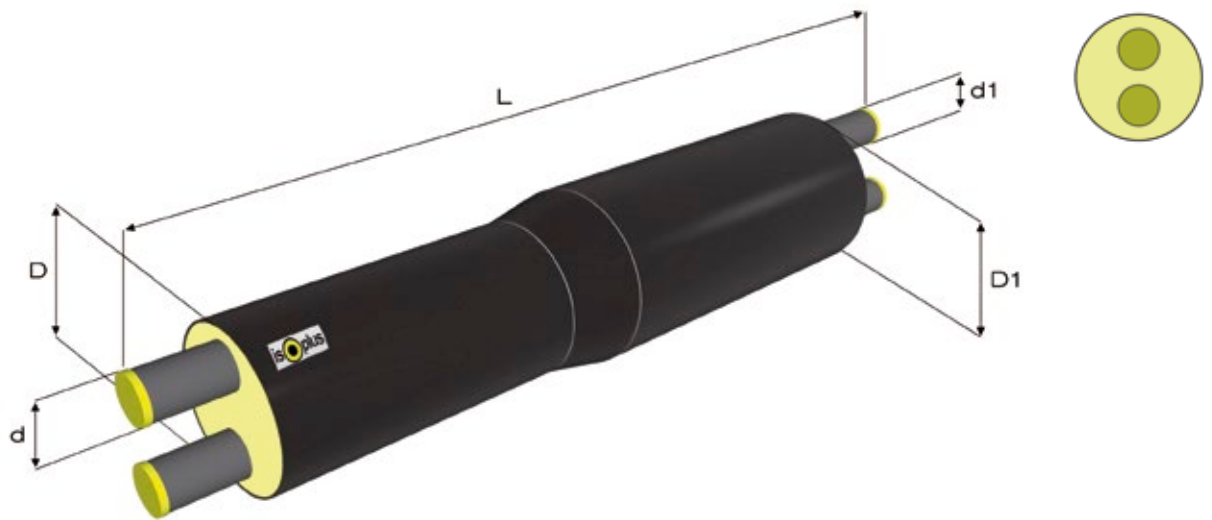
Jackets  $> \text{Ø}560$  bends with 3 m straight end lengths.

When ordering curved pipes, please state the angle  $\alpha$ . The direction of the curve (i.e. to the left or right) must also be stated on account of the alarm wires.

For vertical applications, contact the isoplus technical department.

## Reducers - double

8.3



Reducers - double								
		Series 1		Series 2		Series 3		
Steel pipe	Steel pipe	Jacket pipe	Jacket pipe	Jacket pipe	Jacket pipe	Jacket pipe	Jacket pipe	Length
d outside mm	d1 outside mm	D outside mm	D1 outside mm	D outside mm	D1 outside mm	D outside mm	D1 outside mm	L m
26,9+26,9	33,7+33,7	125	140	140	160	160	180	1500
33,7+33,7	42,4+42,4	140	160	160	180	180	200	1500
42,4+42,4	48,3+48,3	160	160	180	180	200	200	1500
48,3+48,3	60,3+60,3	160	200	180	225	200	250	1500
60,3+60,3	76,1+76,1	200	225	225	250	250	280	1500
76,1+76,1	88,9+88,9	225	250	250	280	280	315	1500
88,9+88,9	114,3+114,3	250	315	280	355	315	400	1500
114,3+114,3	139,7+139,7	315	400	355	450	400	500	1500
139,7+139,7	168,3+168,3	400	450	450	500	500	560	1500
168,3+168,3	219,1+219,1	450	560	500	630	560	710	1500
219,1+219,1	273,0+273,0	560	710	630	800	710	900	1500

Reducers are also available with a greater number of steps.



Horizontal bends 45°/90° - double				
	Series 1	Series 2	Series 3	
Steel pipe	Jacket pipe	Jacket pipe	Jacket pipe	Leg length
d outside mm	D outside mm	D outside mm	D outside mm	L mm
26,9+26,9	125	140	160	1000
33,7+33,7	140	160	180	1000
42,4+42,4	160	180	200	1000
48,3+48,3	160	180	200	1000
60,3+60,3	200	225	250	1000
76,1+76,1	225	250	280	1000
88,9+88,9	250	280	315	1000
114,3+114,3	315	355	400	1000
139,7+139,7	400	450	500	1000
168,3+168,3	450	500	560	1000
219,1+219,1	560	630	710	1200
273,0+273,0	710	800	900	1400

Horizontal bends are also available with other angles and leg lengths.

## Vertical bends 90° - double

8.5



Vertical bends 90° - double				
	Series 1	Series 2	Series 3	
Steel pipe	Jacket pipe	Jacket pipe	Jacket pipe	Leg length
d outside mm	D outside mm	D outside mm	D outside mm	L mm
26,9+26,9	125	140	160	1500
33,7+33,7	140	160	180	1500
42,4+42,4	160	180	200	1500
48,3+48,3	160	180	200	1500
60,3+60,3	200	225	250	1500
76,1+76,1	225	250	280	1500
88,9+88,9	250	280	315	1500
114,3+114,3	315	355	400	1500
139,7+139,7	400	450	500	1500
168,3+168,3	450	500	560	1500
219,1+219,1	560	630	710	1500
273,0+273,0	710	800	900	1500

Vertical bends are also available with other angles and leg lengths.


**Vertical bends 90° - double**

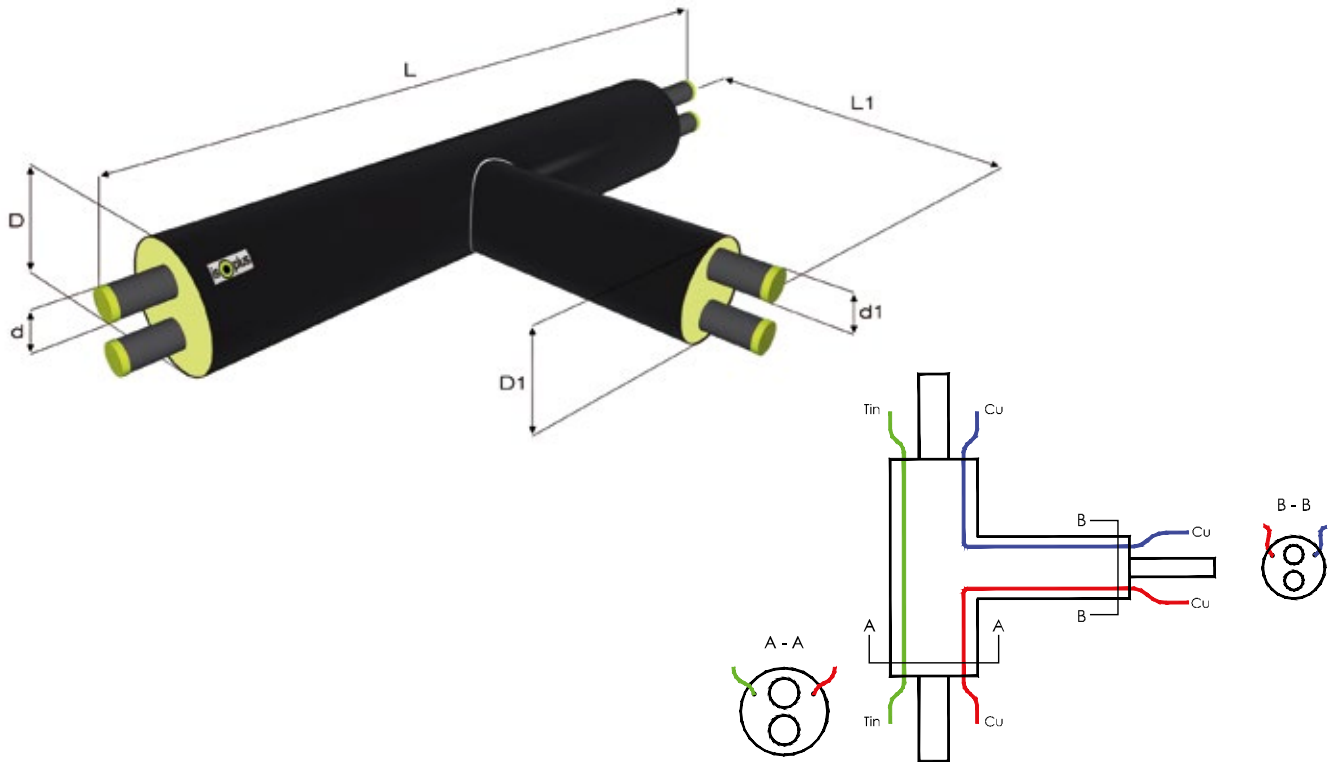
	<b>Series 1</b>	<b>Series 2</b>	<b>Series 3</b>	
Steel pipe	Jacket pipe	Jacket pipe	Jacket pipe	Leg length
d outside mm	D outside mm	D outside mm	D outside mm	L mm
26,9+26,9	125	140	160	1500
33,7+33,7	140	160	180	1500
42,4+42,4	160	180	200	1500
48,3+48,3	160	180	200	1500
60,3+60,3	200	225	250	1500
76,1+76,1	225	250	280	1500
88,9+88,9	250	280	315	1500
114,3+114,3	315	355	400	1500
139,7+139,7	400	450	500	1500
168,3+168,3	450	500	560	1500
219,1+219,1	560	630	710	1500
273,0+273,0	710	800	900	1500

Bends are also available with other angles and leg lengths.  
Can be delivered as both left and right curved.



# Branches - straight - double

8.6



## Branches - straight - double - series 1

	d (mm)	26,9+26,9	33,7+33,7	42,4+42,4	48,3+48,3	60,3+60,3	76,1+76,1	88,9+88,9	114,3+114,3	139,7+139,7	168,3+168,3	219,1+219,1
	D (mm)	125	140	160	160	200	225	250	315	400	450	560
	L (mm)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
d1 mm	D1 mm	Branch L1 (mm)										
26,9+26,9	125	1200/550	1200/600	1200/600	1200/600	1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
33,7+33,7	140		1200/600	1200/600	1200/600	1200/600	1200/650	1200/850	1200/650	1200/700	1200/700	1200/800
42,2+42,4	160			1200/600	1200/600	1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
48,3+48,3	160				1200/600	1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
60,6+60,3	200					1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
76,1+76,1	225						1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
88,9+88,9	250							1200/650	1200/650	1200/700	1200/700	1200/800
114,3+114,3	315								1300/650	1300/700	1300/700	1300/800
139,7+139,7	400									1300/700	1300/700	1300/800
168,3+168,3	450										1400/700	1400/800
219,1+219,1	560											1600/800

**Branches - straight - double - series 2**

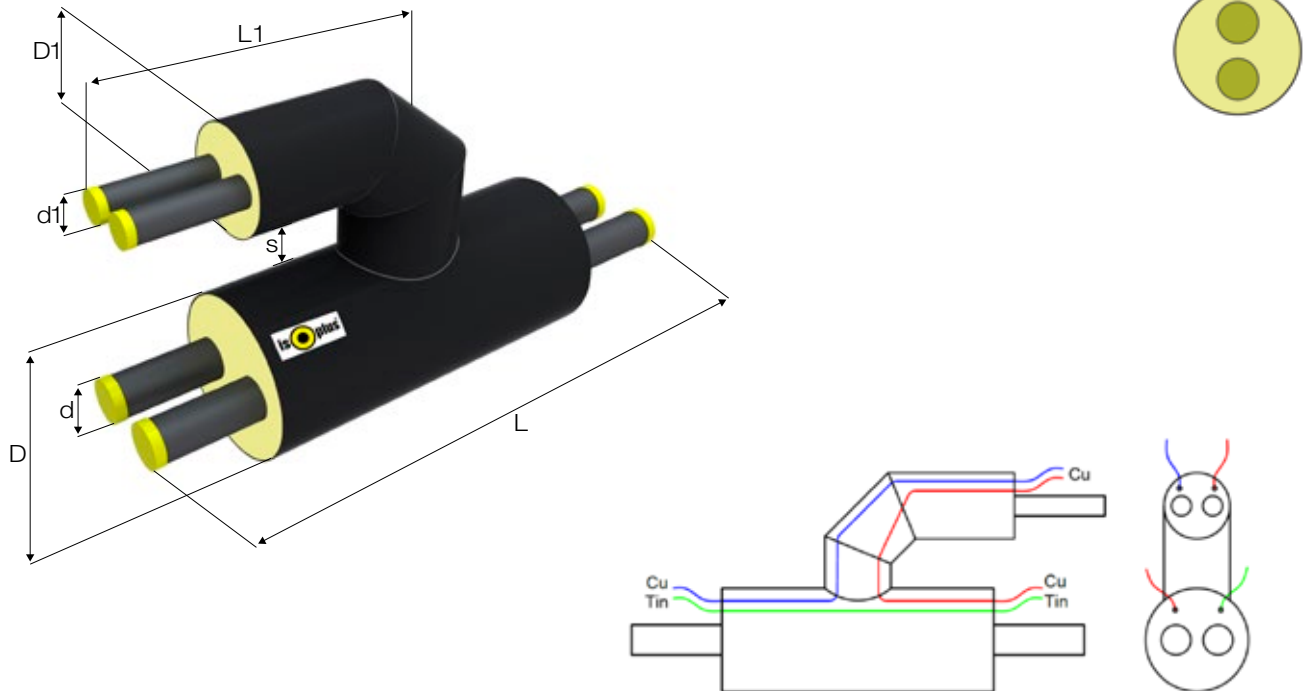
	d (mm)	26,9+26,9	33,7+33,7	42,4+42,4	48,3+48,3	60,3+60,3	76,1+76,1	88,9+88,9	114,3+114,3	139,7+139,7	168,3+168,3	219,1+219,1
	D (mm)	140	160	180	180	225	250	280	355	450	500	630
	L (mm)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
d1 mm	D1 mm	Branch L1 (mm)										
26,9+26,9	140	1200/550	1200/600	1200/600	1200/600	1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
33,7+33,7	160		1200/600	1200/600	1200/600	1200/600	1200/650	1200/850	1200/650	1200/700	1200/700	1200/800
42,2+42,4	180			1200/600	1200/600	1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
48,3+48,3	180				1200/600	1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
60,6+60,3	225					1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
76,1+76,1	250						1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
88,9+88,9	280							1200/650	1200/650	1200/700	1200/700	1200/800
114,3+114,3	355								1300/650	1300/700	1300/700	1300/800
139,7+139,7	450									1300/700	1300/700	1300/800
168,3+168,3	500										1400/700	1400/800
219,1+219,1	630											1600/800

**Branches - straight - double - series 3**

	d (mm)	26,9+26,9	33,7+33,7	42,4+42,4	48,3+48,3	60,3+60,3	76,1+76,1	88,9+88,9	114,3+114,3	139,7+139,7	168,3+168,3	219,1+219,1
	D (mm)	160	180	200	200	250	280	315	400	500	560	710
	L (mm)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
d1 mm	D1 mm	Branch L1 (mm)										
26,9+26,9	160	1200/550	1200/600	1200/600	1200/600	1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
33,7+33,7	180		1200/600	1200/600	1200/600	1200/600	1200/650	1200/850	1200/650	1200/700	1200/700	1200/800
42,2+42,4	200			1200/600	1200/600	1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
48,3+48,3	200				1200/600	1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
60,6+60,3	250					1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
76,1+76,1	280						1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
88,9+88,9	315							1200/650	1200/650	1200/700	1200/700	1200/800
114,3+114,3	400								1300/650	1300/700	1300/700	1300/800
139,7+139,7	500									1300/700	1300/700	1300/800
168,3+168,3	560										1400/700	1400/800
219,1+219,1	710											1600/800

# Parallel branch double - double

8.7



## Parallel branch double - double - series 1

		d (mm)	26,9+26,9	33,7+33,7	42,2+42,4	48,3+48,3	60,6+60,3	76,1+76,1	88,9+88,9	114,3+114,3	139,7+139,7	168,3+168,3	219,1+219,1
		D (mm)	125	140	160	160	200	225	250	315	400	450	560
d1 (mm)	D1 (mm)	s (mm)	Main pipe/Branch pipe L/L1										
26,9+26,9	125	120	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600
33,7+33,7	140	120		1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600
42,2+42,4	160	120			1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600
48,3+48,3	160	120				1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600
60,6+60,3	200	120					1300/600	1300/600	1300/600	1300/600	1300/600	1300/600	1300/600
76,1+76,1	225	120						1300/650	1300/650	1300/650	1300/650	1600/650	1400/700
88,9+88,9	250	120							1400/700	1400/700	1400/700	1400/700	1400/700
114,3+114,3	315	120								1400/700	1400/700	1400/700	1400/700
139,7+139,7	400	120									1500/750	1500/750	1500/750
168,3+168,3	450	120										1600/800	1600/800
219,1+219,1	560	120											1700/850

## Parallel branch double - double

## 8.7.1

### Parallel branch double - double - series 2

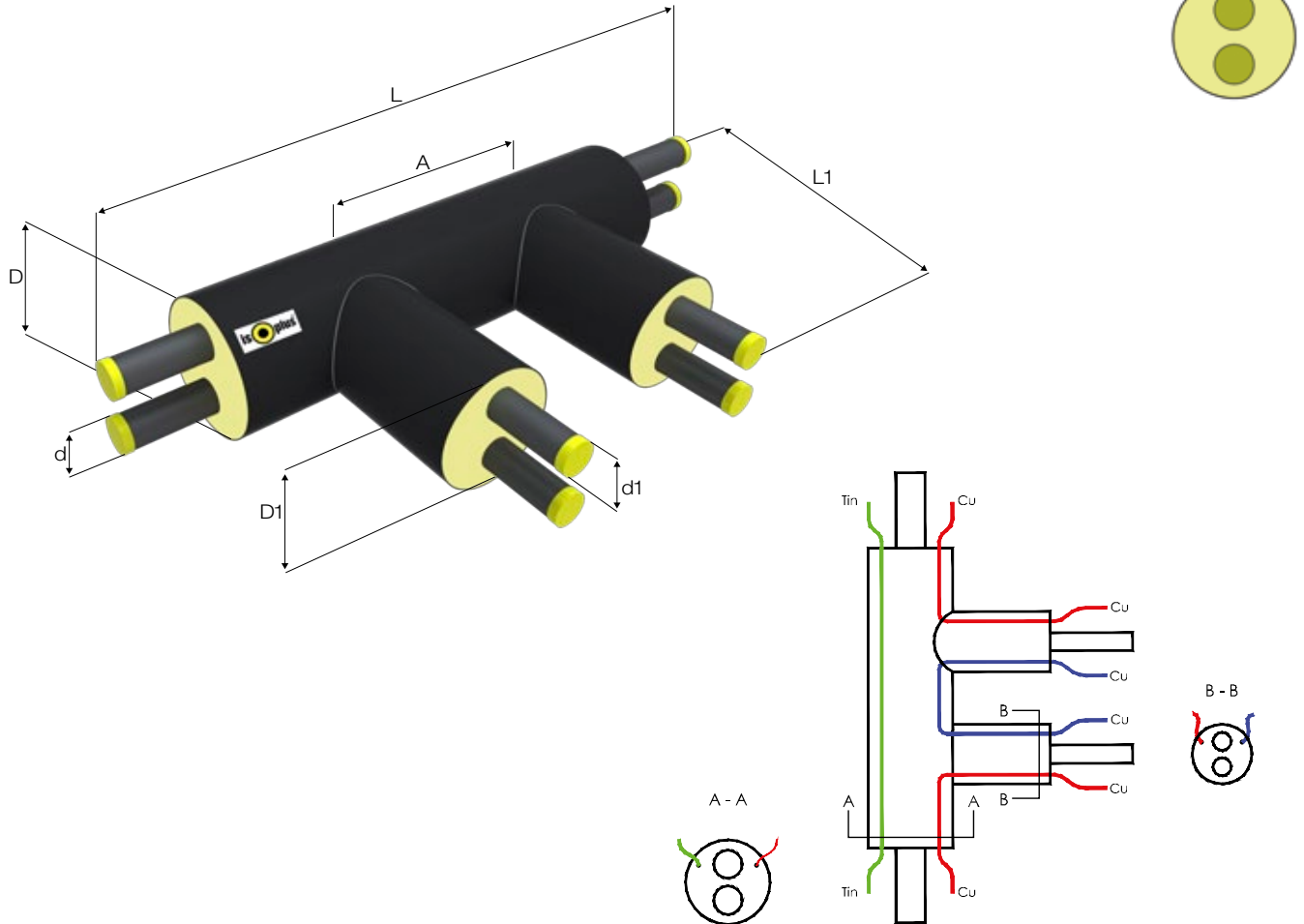
		d (mm)	26,9+26,9	33,7+33,7	42,2+42,4	48,3+48,3	60,6+60,3	76,1+76,1	88,9+88,9	114,3+114,3	139,7+139,7	168,3+168,3	219,1+219,1
		D (mm)	140	160	180	180	225	250	280	355	450	500	630
d1 (mm)	D1 (mm)	s (mm)	Main pipe/Branch pipe L/L1										
26,9+26,9	140	120	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600
33,7+33,7	160	120		1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600
42,2+42,4	180	120			1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600
48,3+48,3	180	120				1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600	1200/600
60,6+60,3	225	120					1300/600	1300/600	1300/600	1300/600	1300/600	1300/600	1300/600
76,1+76,1	250	120						1300/650	1300/650	1300/650	1300/650	1200/700	1400/700
88,9+88,9	280	120							1400/700	1400/700	1400/700	1200/700	1400/700
114,3+114,3	355	120								1400/700	1400/700	1300/700	1400/700
139,7+139,7	450	120									1500/750	1300/700	1500/750
168,3+168,3	500	120										1400/700	1600/800
219,1+219,1	630	120											1700/850

### Parallel branch double - double - series 3

		d (mm)	26,9+26,9	33,7+33,7	42,2+42,4	48,3+48,3	60,6+60,3	76,1+76,1	88,9+88,9	114,3+114,3	139,7+139,7	168,3+168,3	219,1+219,1
		D (mm)	160	180	200	200	250	280	315	400	500	560	710
d1 (mm)	D1 (mm)	s (mm)	Main pipe/Branch pipe L/L1										
26,9+26,9	160	120	1200/550	1200/600	1200/600	1200/600	1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
33,7+33,7	180	120		1200/600	1200/600	1200/600	1200/600	1200/650	1200/850	1200/650	1200/700	1200/700	1200/800
42,2+42,4	200	120			1200/600	1200/600	1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
48,3+48,3	200	120				1200/600	1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
60,6+60,3	250	120					1200/600	1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
76,1+76,1	280	120						1200/650	1200/650	1200/650	1200/700	1200/700	1200/800
88,9+88,9	315	120							1200/650	1200/650	1200/700	1200/700	1200/800
114,3+114,3	400	120								1300/650	1300/700	1300/700	1300/800
139,7+139,7	500	120									1300/700	1300/700	1300/800
168,3+168,3	560	120										1400/700	1400/800
219,1+219,1	710	120											1600/800

# Straight branch double to 2 x double

8.8



## Straight branch double to 2 x double - series 1

	d (mm)	33,7	42,4	48,3	60,3	76,1	88,9	114,3	139,7	168,3	219,1
	D (mm)	140	160	160	200	225	250	315	400	450	560
d1 (mm)	D1 (mm)	Main pipe/Branch pipe/Centre spacing - L/L1/A (mm)									
26,9	125	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500
33,7	140	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500
42,4	160		1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500
48,3	160			1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500
60,3	200				1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500
76,1	225					1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/700/600
88,9	250						1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/700/600
114,3	315							1900/700/700	1900/700/700	1900/700/700	1900/700/700
139,7	400								2000/700/700	2000/700/700	2000/700/700
168,3	450									2100/700/750	2100/700/750
219,1	560										2350/700/950

## Straight branch double to 2 x double

## 8.8.1

### Straight branch double to 2 x double - series 2

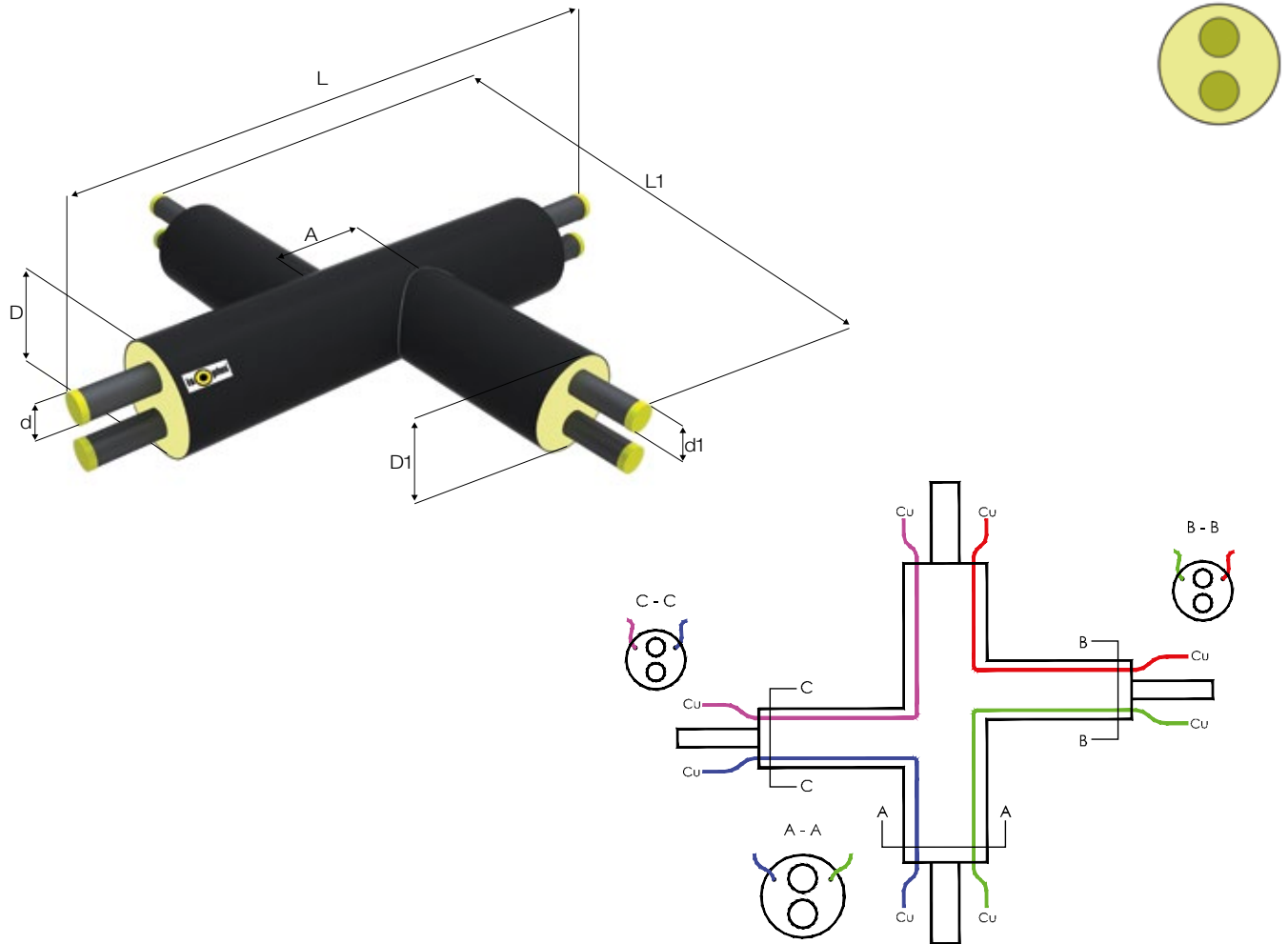
	d (mm)	33,7	42,4	48,3	60,3	76,1	88,9	114,3	139,7	168,3	219,1
	D (mm)	160	180	180	225	250	280	355	450	500	630
d1 (mm)	D1 (mm)	Main pipe/Branch pipe/Centre spacing - L/L1/A (mm)									
26,9	140	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/750/500
33,7	160	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/750/500
42,4	180		1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/750/500
48,3	180			1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/750/500
60,3	225				1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/750/600
76,1	250					1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/750/600
88,9	280						1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/750/600
114,3	355							1900/700/700	1900/700/700	1900/700/700	1900/750/700
139,7	450								2000/700/750	2000/700/750	2000/750/750
168,3	500									2200/700/800	2200/750/800
219,1	630										2400/750/1000

### Straight branch double to 2 x double - series 3

	d (mm)	33,7	42,4	48,3	60,3	76,1	88,9	114,3	139,7	168,3	219,1
	D (mm)	180	200	200	250	280	315	400	500	560	710
d1 (mm)	D1 (mm)	Main pipe/Branch pipe/Centre spacing - L/L1/A (mm)									
26,9	160	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/800/500
33,7	180	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/800/500
42,4	200		1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/800/500
48,3	200			1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/700/500	1900/800/500
60,3	250				1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/800/600
76,1	280					1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/700/600	1900/800/600
88,9	315						1900/700/700	1900/700/700	1900/700/700	1900/700/700	1900/800/700
114,3	400							2000/700/700	2000/700/700	2000/700/700	2000/800/700
139,7	500								2200/700/800	2200/700/800	2200/800/800
168,3	560									2350/700/950	2350/800/950
219,1	710										2650/800/1100

# Cross branch - double

8.9



## Cross branch - double - series 1

	d (mm)	26,9	33,7	42,4	48,3	60,3	76,1	88,9	114,3	139,7	168,3	219,1	
	D (mm)	125	140	160	160	200	225	250	315	400	450	560	
d1 (mm)	D1 (mm)	L/L1/A (mm)											
26,9	125	1500/1400/76	1500/1400/76	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
33,7	140		1500/1400/76	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
42,4	160			1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
48,3	160				1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
60,3	200					1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
76,1	225						1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
88,9	250							1500/1400/150	1500/1400/150	1500/1400/150	1500/1400/150	1500/1400/150	1500/1400/150
114,3	315								1500/1400/200	1500/1400/200	1500/1400/200	1500/1400/200	1500/1400/200
139,7	400									1500/1400/200	1500/1400/200	1500/1400/200	1500/1400/200
168,3	450										1500/1400/250	1500/1400/250	1500/1400/250
219,1	560												1500/1400/300

## Cross branch - double

## 8.9.1

### Cross branch - double - series 2

	d (mm)	26,9	33,7	42,4	48,3	60,3	76,1	88,9	114,3	139,7	168,3	219,1	
	D (mm)	140	160	180	180	225	250	280	355	450	500	630	
d1 (mm)	D1 (mm)	L/L1/A (mm)											
26,9	140	1500/1400/76	1500/1400/76	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
33,7	160		1500/1400/76	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
42,4	180			1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
48,3	180				1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
60,3	225					1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
76,1	250						1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
88,9	280							1500/1400/150	1500/1400/150	1500/1400/150	1500/1400/150	1500/1400/150	1500/1400/150
114,3	355								1500/1400/200	1500/1400/200	1500/1400/200	1500/1400/200	1500/1400/200
139,7	450									1500/1400/200	1500/1400/200	1500/1400/200	1500/1400/200
168,3	500										1500/1400/250	1500/1400/250	1500/1400/250
219,1	630												1500/1400/300

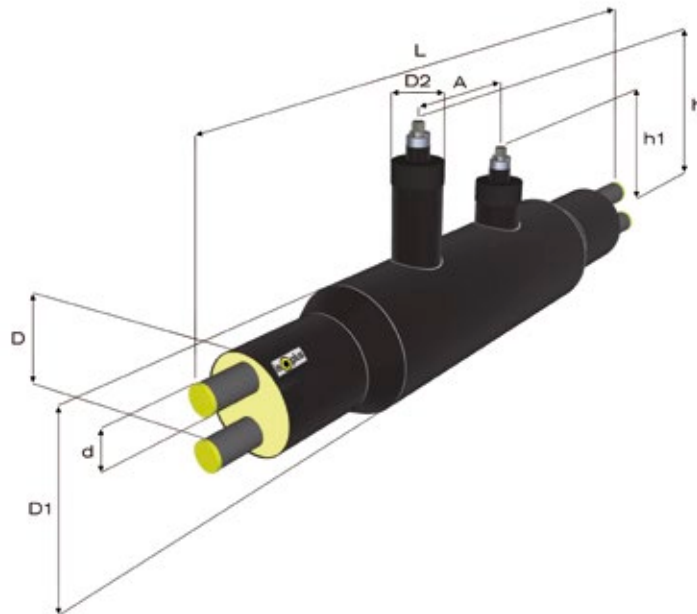
### Cross branch - double - series 3

	d (mm)	26,9	33,7	42,4	48,3	60,3	76,1	88,9	114,3	139,7	168,3	219,1	
	D (mm)	160	180	200	200	250	280	315	400	500	560	710	
d1 (mm)	D1 (mm)	L/L1/A (mm)											
26,9	160	1500/1400/76	1500/1400/76	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
33,7	180		1500/1400/76	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
42,4	200			1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
48,3	200				1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
60,3	250					1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
76,1	280						1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100	1500/1400/100
88,9	315							1500/1400/150	1500/1400/150	1500/1400/150	1500/1400/150	1500/1400/150	1500/1400/150
114,3	400								1500/1400/200	1500/1400/200	1500/1400/200	1500/1400/200	1500/1400/200
139,7	500									1500/1400/200	1500/1400/200	1500/1400/200	1500/1400/200
168,3	560										1500/1400/250	1500/1400/250	1500/1400/250
219,1	710												1500/1400/300



## Shut-off valves - double

8.10



### Shut-off valves - double

	Series 1		Series 2		Series 3							
Steel pipe	Jacket pipe		Jacket pipe		Jacket pipe		Valve stem				T-wrench	Length
d outs. mm	D outs. mm	D1 outs. mm	D outs. mm	D1 outs. mm	D outs. mm	D1 outs. mm	D2 mm	A mm	h mm	h1 mm	Hex. valve top in mm	L mm
33,7+33,7	140	180	160	180	180	200	110	210	461	365	19	1600
42,4+42,4	160	200	180	200	200	250	110	210	471	366	19	1600
48,3+48,3	160	200	180	200	200	250	110	210	499	366	19	1600
60,3+60,3	200	250	225	250	250	280	110	210	519	366	19	1600
76,1+76,1	225	280	250	280	280	315	110	210	542	360	19	1800
88,9+88,9	250	315	280	315	315	355	110	210	574	358	19	1900
114,3+114,3	315	400	355	400	400	450	110	210	618	365	27	1900
139,7+139,7	400	500	450	500	500	560	180	210	690	383	27	2200
168,3+168,3	450	560	500	560	560	630	180	210	752	383	27	2200
219,1+219,1	560	630	630	710	710	800	180	210	800	383	27	2200
219,1+219,1	560	630	630	670	710	800	180	210	800	383	27	2200

Pre-insulated shut-off valves are manufactured in accordance with DS/EN 488.

isoplus pre-insulated shut-off valves are maintenance-free ball valves with polished stainless ball, spring-loaded teflon seats and fully welded housing.

Shut-off valves with reduced bore.

Stem top is made of stainless steel.

Valves are also available with larger dimensions and other stem heights (h).

Hydraulically operated valves are also available.

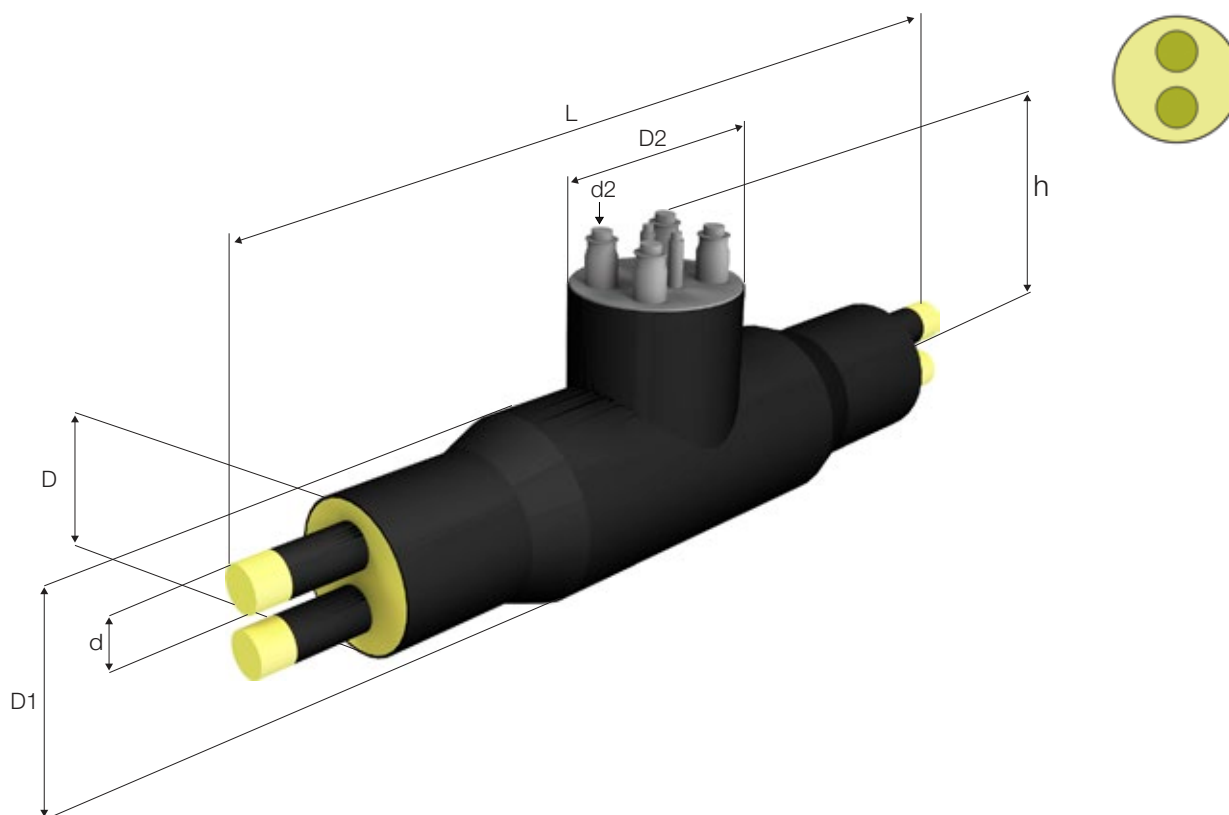
**Shut-off valves must be open during welding.**

High-stress valves supplied as standard.

Measures vary depending on the valve manufacturer.

## Shut-off valves with 2 vent/drain valves - double

8.11



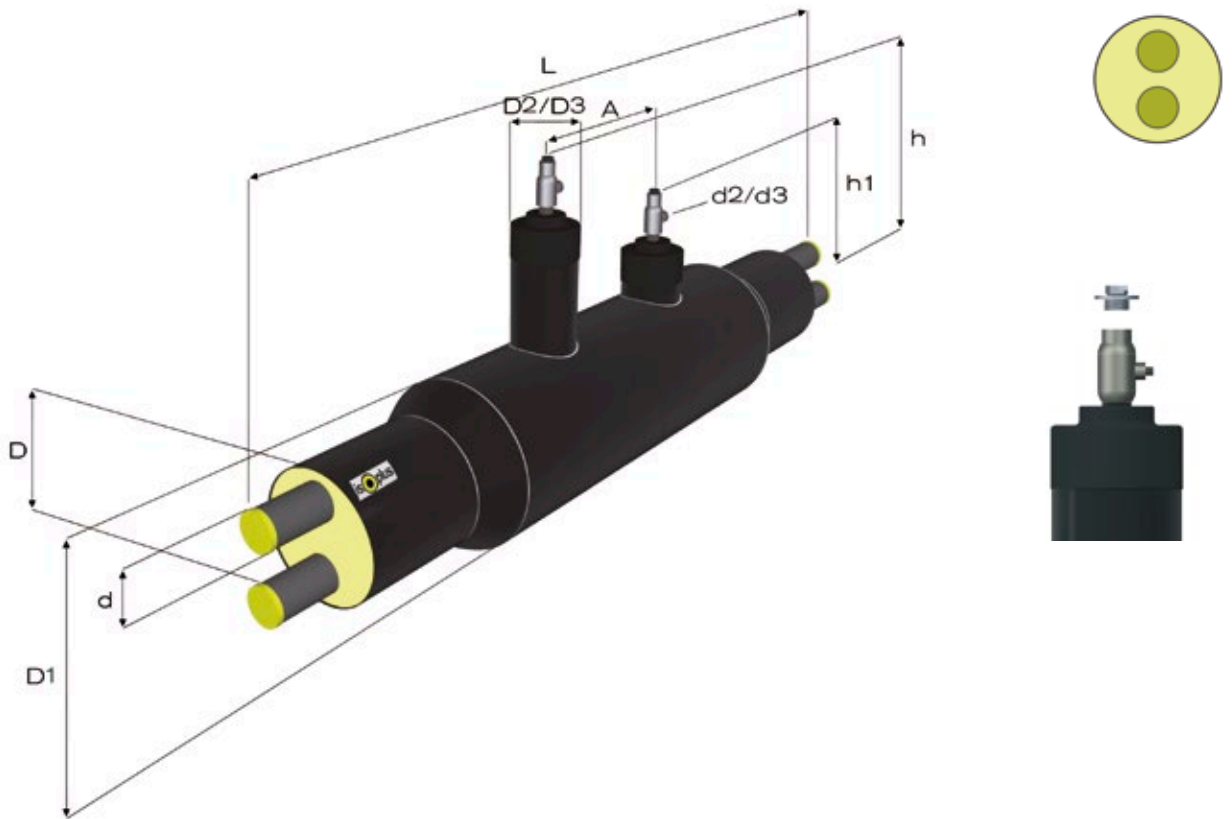
### Shut-off valves with 2 vent/drain valves - double

	Series 1	Series 2	Series 3						
Steel pipe	Jacket pipe	Jacket pipe	Jacket pipe	Jacket pipe	Jacket pipe	Height	Vent/drain	T-wrench	Length
d outside mm	D mm	D mm	D mm	D1 outside mm	D2 outside mm	h mm	d2 mm	mm	L mm
26,9+26,9	125	140	160	355	348	482	33	19	2150
33,7+33,7	140	160	180	355	348	482	48	19	2150
42,4+42,4	160	180	200	355	348	485	48	19	2150
48,3+48,3	160	180	200	355	348	494	48	19	2150
60,3+60,3	200	225	250	355	348	480	48	19	2150
76,1+76,1	225	250	280	450	426	506	48	19	2350
88,9+88,9	250	280	315	450	426	515	48	19	2600
114,3+114,3	315	355	400	560	527	527	48	27	2900
139,7+139,7	400	450	500	560	533	546	48	27	3300
168,3+168,3	450	500	560	630	595	565	48	27/70	4200
219,1+219,1	560	630	710	800	665	750	48	50/90	5900
273,0+273,0	710	800	900	1100	710	900	70	50/90	3000

Shut-off valves with reduced bore.  
Measures vary depending on the valve manufacturer.

## Vent/drain valves - double

8.12



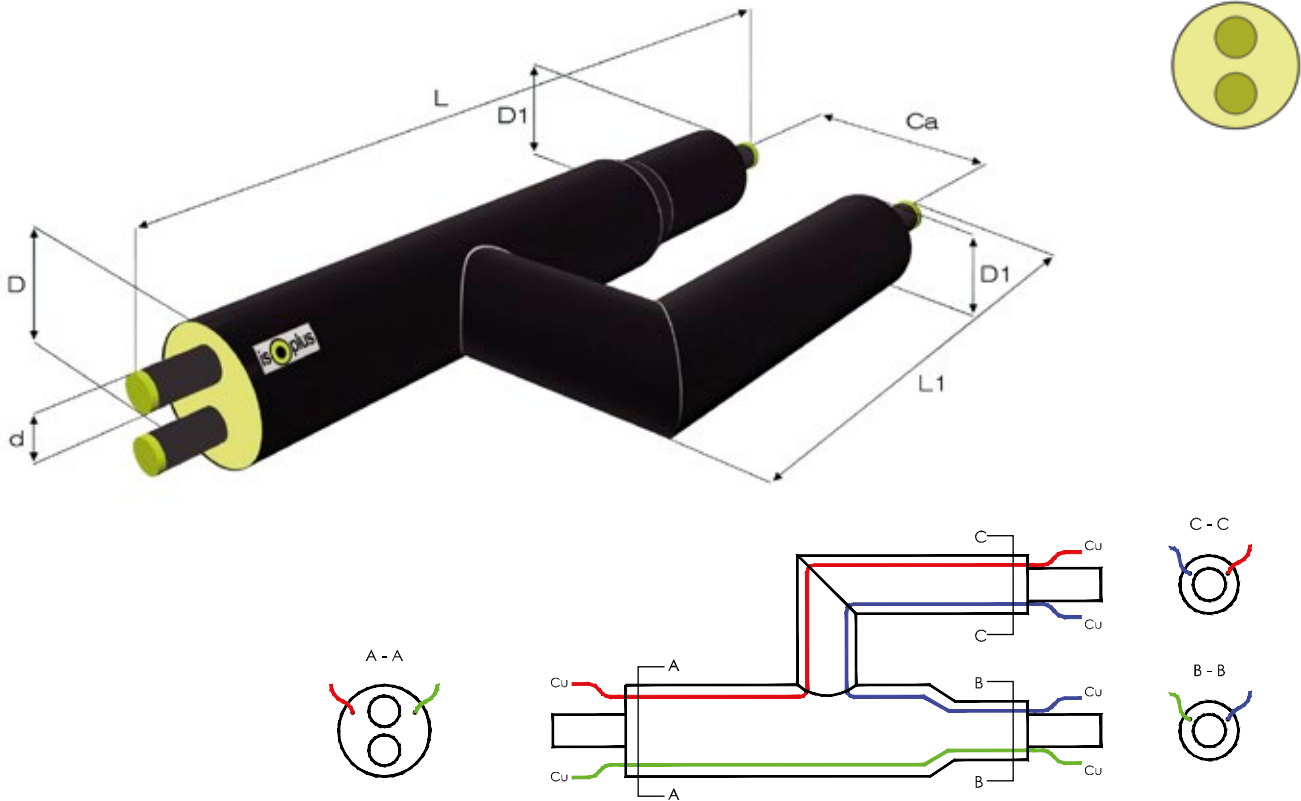
### Vent/drain valves

	Series 1		Series 2		Series 3		Spacing	Steel pipe		Jacket pipe		Height		Length
	Steel pipe	Jacket pipe	Jacket pipe		Jacket pipe			Vent	Drain	Vent	Drain	h mm	h1 mm	
d udv. mm	D udv. mm	D1 udv. mm	D udv. mm	D1 udv. mm	D udv. mm	D1 udv. mm	A mm	d2 mm	d3 mm	D2 mm	D3 mm	h mm	h1 mm	L mm
26,9+26,9	125	160	140	180	160	180	150	26,9	26,9	110	110	500	450	1500
33,7+33,7	140	180	160	180	180	200	150	33,7	33,7	110	110	500	450	1500
42,4+42,4	160	200	180	200	200	250	150	33,7	42,4	110	110	500	440	1500
48,3+48,3	160	200	180	200	200	250	150	33,7	48,3	110	125	500	430	1500
60,3+60,3	200	250	225	250	250	280	150	33,7	60,3	110	140	500	420	1500
76,1+76,1	225	280	250	280	280	315	150	33,7	60,3	110	140	500	400	1600
88,9+88,9	250	315	280	315	315	355	150	33,7	60,3	110	140	500	390	1600
114,3+114,3	315	400	355	400	400	450	150	33,7	60,3	110	140	500	360	1800
139,7+139,7	400	500	450	500	500	560	150	33,7	60,3	110	140	500	340	2000
168,3+168,3	450	560	500	560	560	630	150	33,7	60,3	110	140	500	310	2000
219,1+219,1	560	630	630	710	710	800	150	33,7	60,3	110	140	500	400	2000

Measures vary depending on the valve manufacturer.

# Breeches pipes - H model - double

8.13

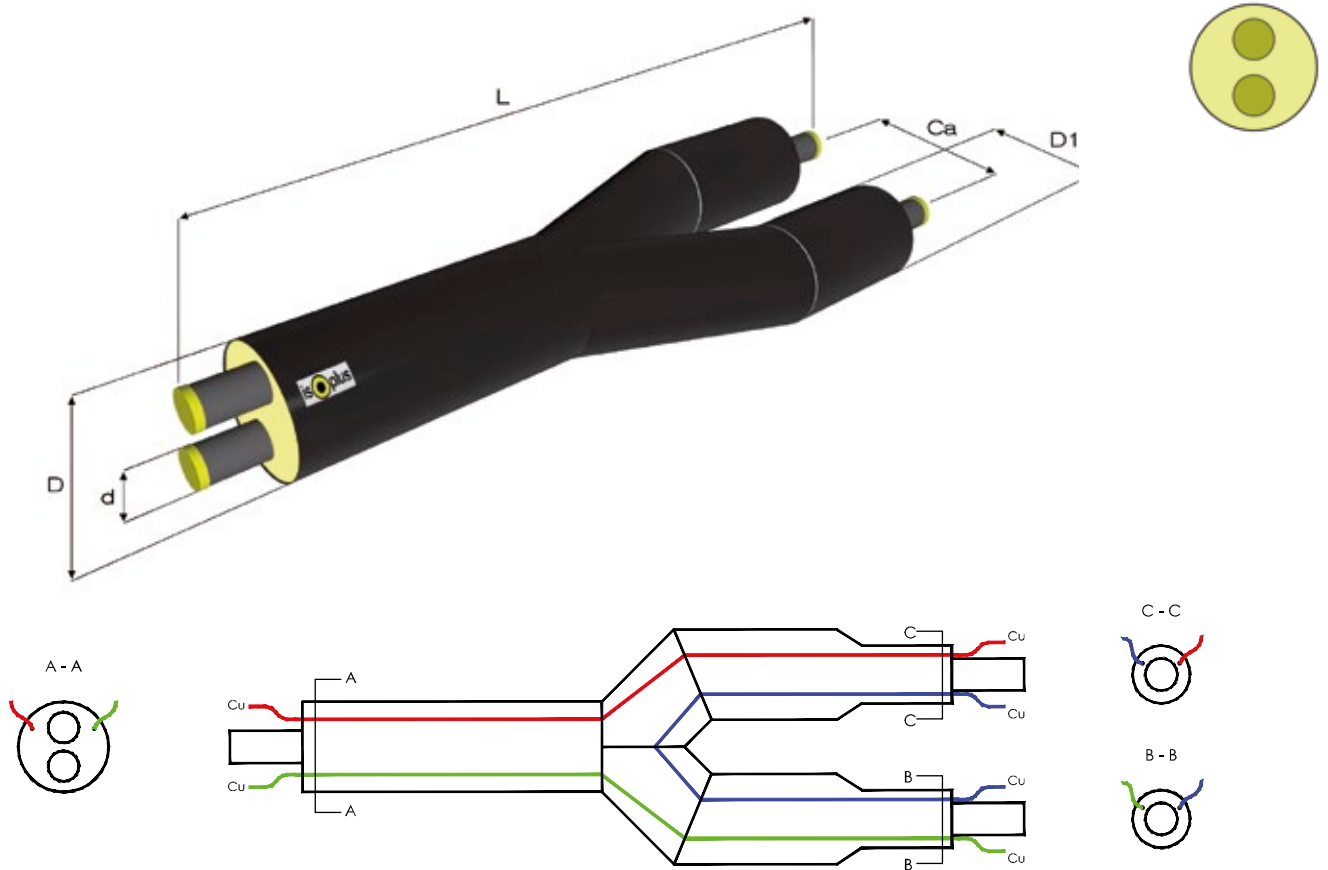


Breeches pipes - H model - double									
	Series 1		Series 2		Series 3				
Steel pipe	Jacket pipe		Jacket pipe		Jacket pipe		Centre spacing	Length	
d udv. mm	D udv. mm	D1 udv. mm	D udv. mm	D1 udv. mm	D udv. mm	D1 udv. mm	Ca mm	L mm	L1 mm
26,9+26,9	125	90	140	110	160	125	240	1200	600
33,7+33,7	140	90	160	110	180	125	240	1200	600
42,4+42,4	160	110	180	125	200	140	260	1200	600
48,3+48,3	160	110	180	125	200	140	260	1200	600
60,3+60,3	200	125	225	140	250	160	290	1200	600
76,1+76,1	225	140	250	160	280	180	310	1200	600
88,9+88,9	250	160	280	180	315	200	350	1200	600
114,3+114,3	315	200	355	225	400	250	375	1200	600
139,7+139,7	400	225	450	250	500	280	450	1200	600
168,3+168,3	450	250	500	280	560	315	510	1300	650
219,1+219,1	560	315	630	355	710	400	610	1400	700
273,0+273,0	710	400	800	450	900	500	812	1800	750

Breeche pipes-H model-double are not a standard product. Can be delivered on request.

# Breeches pipes - Y model - double

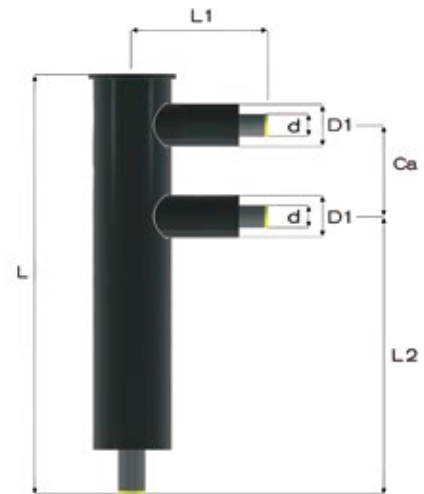
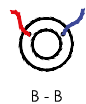
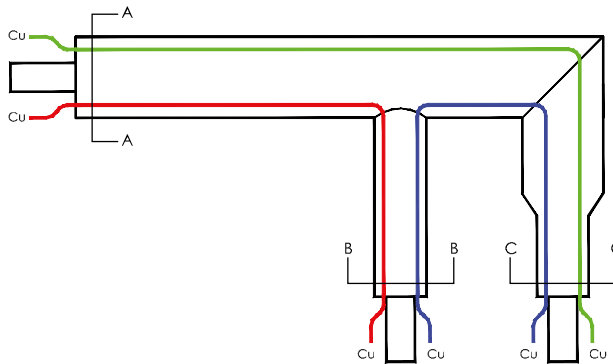
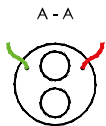
8.14



Breeches pipes - Y model - double										
	Series 1			Series 2			Series 3			
Steel pipe	Jacket pipe		Centre spacing	Jacket pipe		Centre spacing	Jacket pipe		Centre spacing	Length
d udv. mm	D outside mm	D1 outside mm	Approx mm	D outside mm	D1 outside mm	Approx mm	D outside mm	D1 outside mm	Approx mm	L m
26,9+26,9	125	90	240	140	110	260	160	125	275	1,5
33,7+33,7	140	90	240	160	110	260	180	125	275	1,5
42,4+42,4	160	110	260	180	125	275	200	140	290	1,5
48,3+48,3	160	110	260	180	125	275	200	140	290	1,5
60,3+60,3	200	125	275	225	140	290	250	160	310	1,5
76,1+76,1	225	140	290	250	160	310	280	180	330	1,5
88,9+88,9	250	160	310	280	180	330	315	200	350	1,6
114,3+114,3	315	200	350	355	225	375	400	250	400	1,6
139,7+139,7	400	225	375	450	250	400	500	280	530	1,7
168,3+168,3	450	250	400	500	280	530	560	315	565	1,9
219,1+219,1	560	315	565	630	355	605	710	400	650	1,9
273,0+273,0	710	400	650	800	450	700	900	500	750	2,1

# Breeches pipes - F model - double

8.15



### Alarm wire routing

Alarm wires in F pipes are not tin-coated.  
See the four variants on the next page.

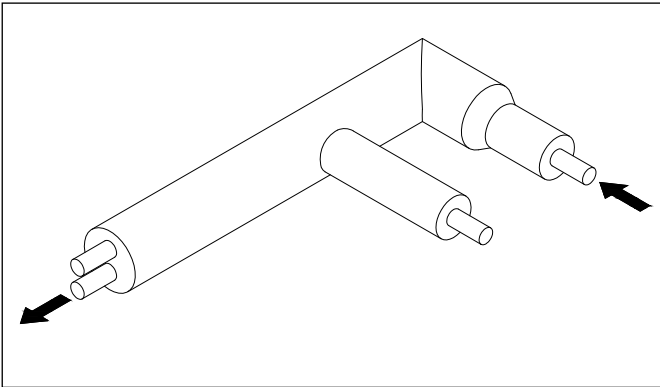
Breeches pipes - F model - double										
	Series 1		Series 2		Series 3		Centre spacing		Length	
Steel pipe	Jacket pipe		Jacket pipe		Jacket pipe		Ca mm	L mm	L1 mm	L2 mm
d udv. mm	D udv. mm	D1 udv. mm	D udv. mm	D1 udv. mm	D udv. mm	D1 udv. mm	Ca mm	L mm	L1 mm	L2 mm
26,9+26,9	125	90	140	110	160	125	240	1100	600	760
33,7+33,7	140	90	160	110	180	125	240	1100	600	760
42,4+42,4	160	110	180	125	200	140	260	1100	600	740
48,3+48,3	160	110	180	125	200	140	260	1100	600	740
60,3+60,3	200	125	225	140	250	160	300	1100	600	700
76,1+76,1	225	140	250	160	280	180	310	1100	600	690
88,9+88,9	250	160	280	180	315	200	360	1200	600	640
114,3+114,3	315	200	355	225	400	250	400	1300	650	750
139,7+139,7	400	225	450	250	500	280	425	1300	700	725
168,3+168,3	450	250	500	280	560	315	450	1400	700	778
219,1+219,1	560	315	630	355	710	400	615	1700	750	885
273,0+273,0	710	400	800	450	900	500	700	1900	800	965

## Breeches pipes - F model - double

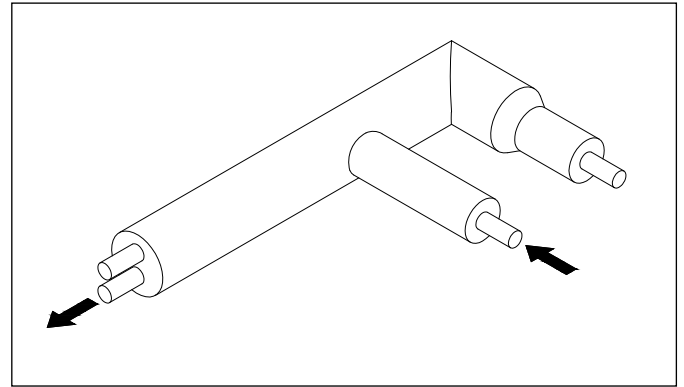
8.15.1

F transition pipes can be ordered in four different variants depending upon the pipe layout.

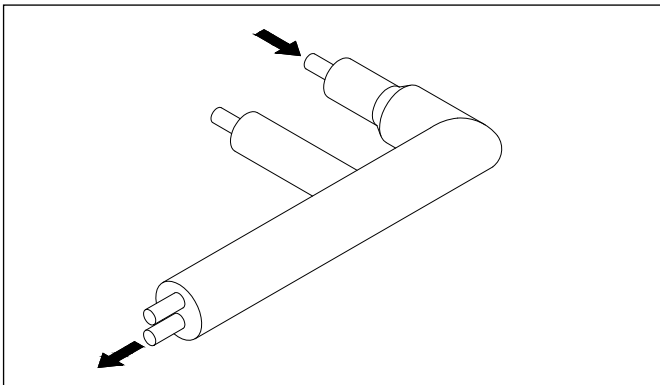
**Type 2 - Variant 1**



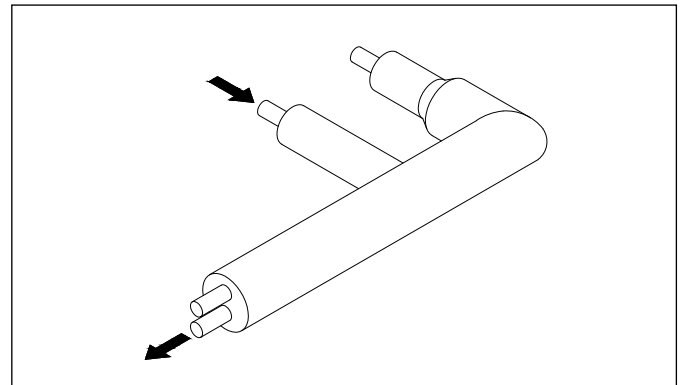
**Type 2 - Variant 2**




**Type 2 - Variant 3**



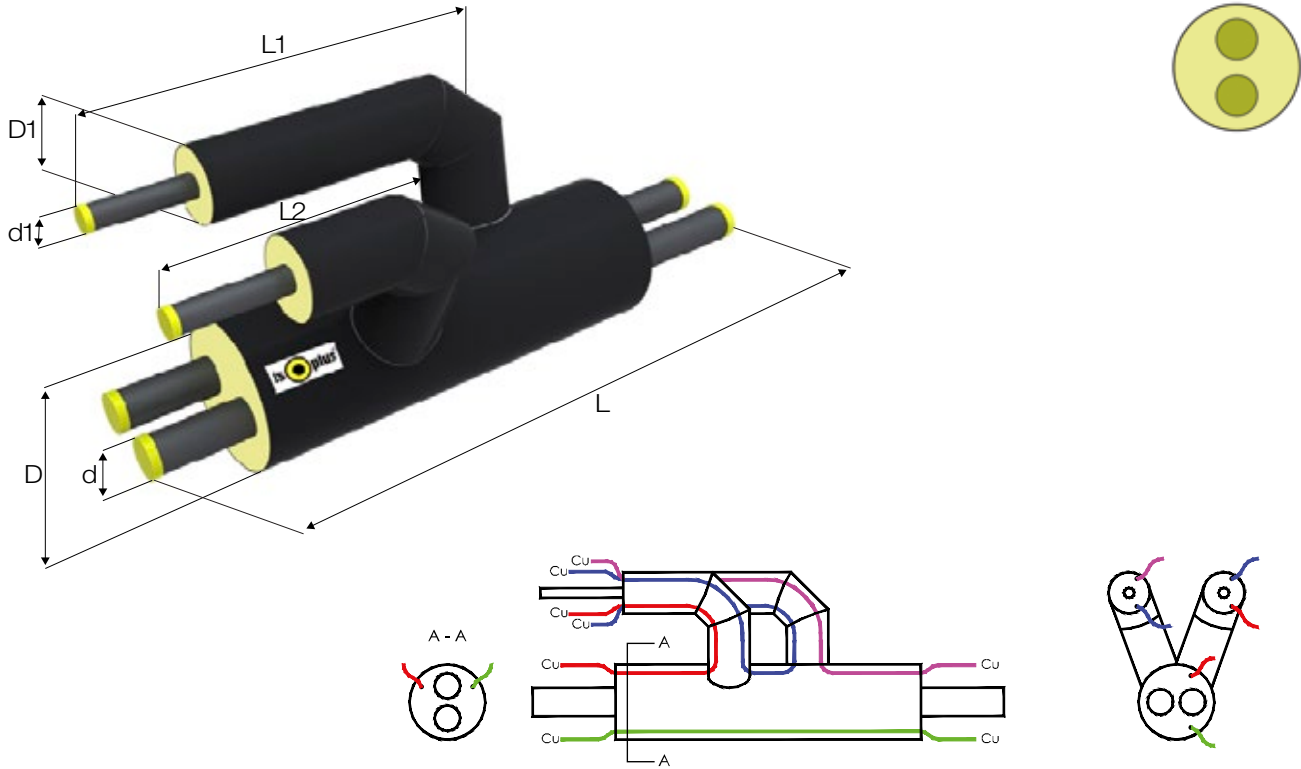
**Type 2 - Variant 4**



 Supply line

# Parallel branch double to single

8.16



## Parallel branch double to single - series 2 main pipe - series 1 branch pipe

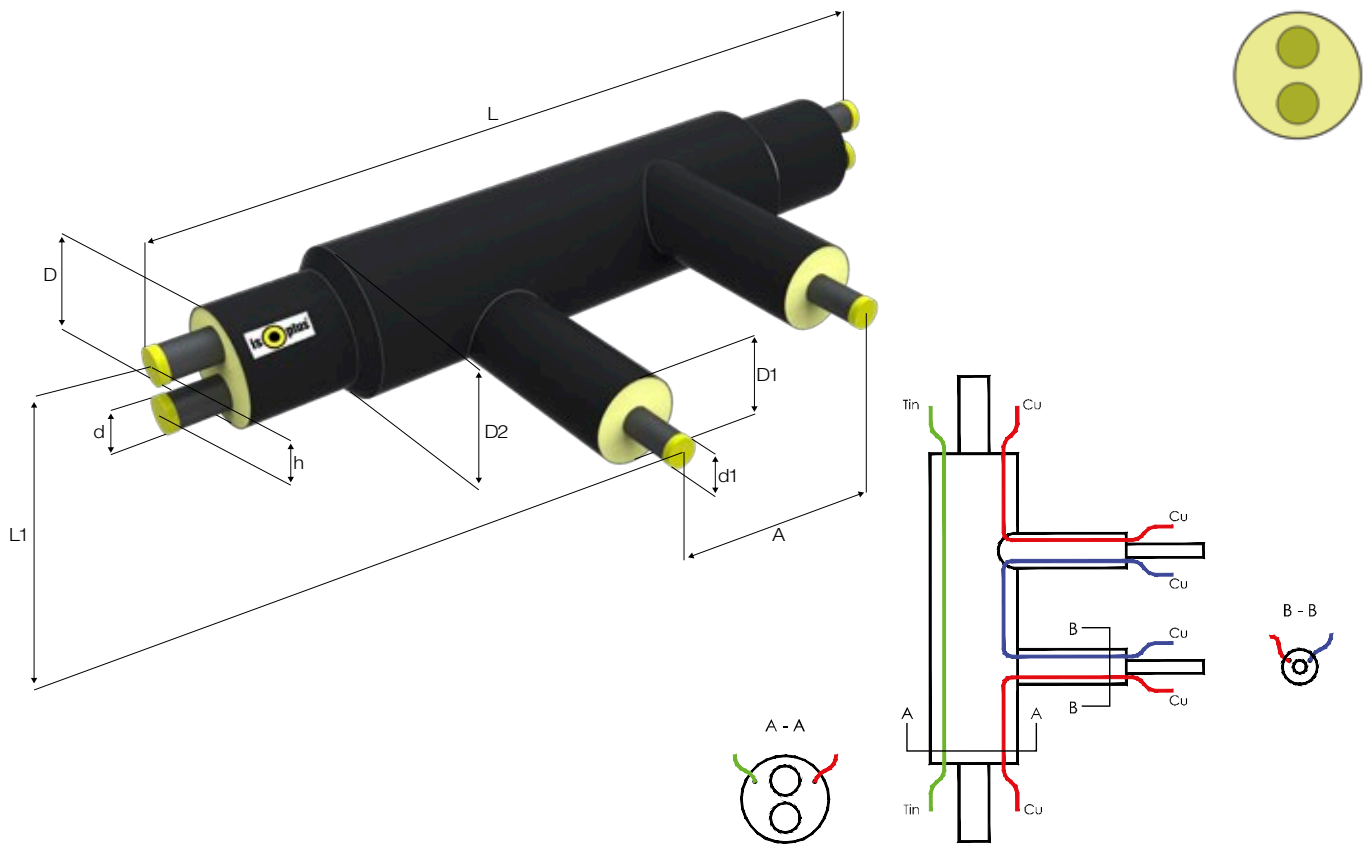
	d (mm)	33,7	42,4	48,3	60,3	76,1	88,9	114,3	139,7	168,3
	D (mm)	160	180	180	225	250	280	355	450	500
d1 (mm)	D1 (mm)	L/L1/L2 (mm) A1/A2 (mm)								
26,9	90	1200/700/500 385/260	1200/700/500 369/260	1200/700/500 358/260	1200/700/500 335/260	1200/700/500 306/260	1200/700/500 273/260	1200/700/500 300/300	1200/700/500 336/350	1300/750/550 357/400
33,7	90	1200/700/500 385/260	1200/700/500 369/260	1200/700/500 358/260	1200/700/500 335/260	1200/700/500 306/260	1200/700/500 273/260	1200/700/500 300/300	1200/700/500 336/350	1300/750/550 357/400
42,4	110		1200/700/500 369/260	1200/700/500 358/260	1200/700/500 335/260	1200/700/500 306/260	1200/700/500 273/260	1200/700/500 300/300	1200/700/500 336/350	1300/750/550 357/400
48,3	110			1200/700/500 358/260	1200/700/500 335/260	1200/700/500 306/260	1200/700/500 273/260	1200/700/500 300/300	1200/700/500 336/350	1300/750/550 357/400
60,3	140				1200/700/500 335/260	1200/700/500 306/260	1200/700/500 273/260	1200/700/500 300/300	1200/700/500 336/350	1300/750/550 395/420
76,1	160					1200/700/500 306/260	1300/750/550 347/300	1300/750/550 393/350	1300/750/550 429/400	1300/750/550 395/420
88,9	180						1300/750/550 347/300	1400/800/600 393/350	1400/800/600 429/400	1400/800/600 451/450
114,3	225							1400/800/600 393/350	1400/800/600 429/400	1400/800/600 451/450
139,7	250								1600/950/650 429/400	1600/950/650 451/450
168,3	280									1600/950/650 451/450

The branch can be delivered with customised dimensions.



# Straight branch double to single

8.17



## Straight branch double to single - series 1

		26,9	33,7	42,4	48,3	60,3	76,1	88,9	114,3	139,7	168,3	219,1	
		D (mm)	125	140	160	160	200	225	250	315	400	450	560
d1 (mm)	D1 (mm)	L/L1/D2 (mm) A/h (mm)											
26,9	90	1300/500/90 240/47	1300/500/160 240/54	1300/500/160 240/62	1300/550/160 240/68	1300/550/200 240/80	1300/550/225 240/96	1300/550/250 240/114	1300/600/315 240/140	1300/650/400 240/170	1300/700/450 240/208	1300/750/560 240/264	
33,7	90		1300/500/160 240/54	1300/500/160 240/62	1300/550/160 240/68	1300/550/200 240/80	1300/550/225 240/96	1300/550/250 240/114	1300/600/315 240/140	1300/650/400 240/170	1300/700/450 240/208	1300/750/560 240/264	
42,4	110			1300/500/180 240/62	1300/550/180 240/68	1300/550/200 240/80	1300/550/225 240/96	1300/550/250 240/114	1300/600/315 240/140	1300/650/400 240/170	1300/700/450 240/208	1300/750/560 240/264	
48,3	110				1300/550/180 240/68	1300/550/200 240/80	1300/550/225 240/96	1300/550/250 240/114	1300/600/315 240/140	1300/650/400 240/170	1300/700/450 240/208	1300/750/560 240/264	
60,3	125					1300/550/225 240/80	1300/550/225 240/96	1300/600/250 240/114	1300/600/315 240/140	1300/650/400 240/170	1300/700/450 240/208	1300/750/560 240/264	
76,1	140						1300/600/250 240/96	1400/600/280 300/114	1400/600/315 300/140	1400/650/400 300/170	1400/700/450 300/208	1400/750/560 300/264	
88,9	160							1400/600/280 300/114	1400/600/315 300/140	1400/650/400 300/170	1400/700/450 300/208	1400/750/560 300/264	
114,3	200								1500/650/355 350/140	1500/650/400 300/170	1500/700/450 350/208	1500/750/560 350/264	
139,7	225									1500/650/400 300/170	1500/700/450 350/208	1500/750/560 350/264	
168,3	250										1600/700/500 350/208	1600/750/560 450/264	
219,1	315											1700/750/560 450/264	

## Straight branch double to single

8.17.1

Straight branch double to single - series 2 main pipe/series 1 branch pipe												
	d (mm)	26,9	33,7	42,4	48,3	60,3	76,1	88,9	114,3	139,7	168,3	219,1
	D (mm)	140	160	180	180	225	250	280	355	450	500	630
d1 (mm)	D1 (mm)	L/L1/D2 (mm) A/h (mm)										
26,9	90	1300/500/90 240/47	1300/500/160 240/54	1300/500/180 240/62	1300/550/180 240/68	1300/550/225 240/80	1300/550/250 240/96	1300/550/280 240/114	1300/600/355 240/139	1300/650/450 240/170	1300/700/500 240/208	1300/750/630 240/264
33,7	90		1300/500/160 240/54	1300/500/180 240/62	1300/550/180 240/68	1300/550/225 240/80	1300/550/250 240/96	1300/550/280 240/114	1300/600/355 240/139	1300/650/450 240/170	1300/700/500 240/208	1300/750/630 240/264
42,4	110			1300/500/180 240/62	1300/550/180 240/68	1300/550/225 240/80	1300/550/250 240/96	1300/550/280 240/114	1300/600/355 240/139	1300/650/450 240/170	1300/700/500 240/208	1300/750/630 240/264
48,3	110				1300/550/180 240/68	1300/550/225 240/80	1300/550/250 240/96	1300/550/280 240/114	1300/600/355 240/139	1300/650/450 240/170	1300/700/500 240/208	1300/750/630 240/264
60,3	125					1300/550/225 240/80	1300/550/250 240/96	1300/600/280 240/114	1300/600/355 240/139	1300/650/450 240/170	1300/700/500 240/208	1300/750/630 240/264
76,1	140						1300/600/250 240/96	1400/600/280 300/114	1400/600/355 300/139	1400/650/450 300/170	1400/700/500 300/208	1400/750/630 300/264
88,9	160							1400/600/280 300/114	1400/600/355 300/139	1400/650/450 300/170	1400/700/500 300/208	1400/750/630 300/264
114,3	200								1500/650/355 350/139	1500/650/450 350/170	1500/700/500 350/208	1500/750/630 350/264
139,7	225									1500/650/450 350/170	1500/700/500 350/208	1500/750/630 350/264
168,3	250										1600/700/500 350/208	1600/750/630 450/264
219,1	315											1700/750/630 450/264

The branch can be delivered with customised dimensions.